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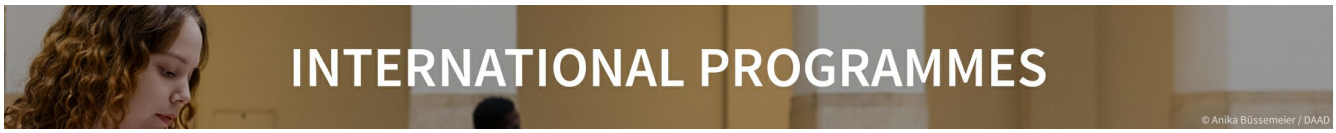
German Academic Exchange Service



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Bachelor's degree

Engineering Physics and Data Science

Hochschule München University of Applied Sciences • **München**

Overview

Degree	BSc
Teaching language	• English
Languages	English
Full-time / part-time	• full-time
Programme duration	7 semesters
Beginning	Winter semester
Application deadline	EU and non-EU applicants Winter semester: 2 May to 15 July
Tuition fees per semester in EUR	None
Joint degree / double degree programme	No
Description/content	In this degree programme, you will learn everything you need to be able to work as a physics engineer or data scientist later on. Physics teaches the basics – that is, you learn how things move (mechanics), how electricity works (electrodynamics), what heat actually is (thermodynamics) and what happens in the world of the tiniest particles (quantum physics). You will learn how to deal with a lot of information (data) and how to use machine learning to design technological innovations. This involves understanding and evaluating (very) large amounts of data, which helps to find patterns and solutions to complex problems. In addition, methodological knowledge in data science is taught, which usually includes the analysis and processing of large amounts of data using statistical methods, machine learning and computational science. More in-depth areas, such as developing new materials, researching acoustics and light (photonics), understanding chips and electronic components (semiconductor technology) or working with renewable energies, which are of particular interest to you, are offered in the form of elective courses in the sixth and seventh semesters, which you can immerse yourself in. You not only acquire a lot of knowledge but also learn how to apply this knowledge to solve real

problems. Gaining practical experience is a good way to do this. You will spend at least one practical semester in a company or perhaps in one of our faculty's laboratories. You will write your Bachelor's thesis by working with companies that are active in these areas.

At the end of this Bachelor's degree programme, you will be able to develop solutions independently and take on key tasks in your future career as a physics engineer or data scientist.

We regularly offer online information sessions for prospective students on the Bachelor Engineering Physics and Data Science:

https://sci-intern.hm.edu/fk/aktuelles.php?mode=1&studgang=PSB&info=1&lang=en

Course Details

Course organisation	The table below provides an overview of the structure of the programme. Detailed module descriptions are available on the link below. Just click the link and choose the module you want to explore. https://sci-intern.hm.edu/fk/fachthemen2.php?studgang=psb&lang=de The numbers below each module name indicate the semester hours per week (SWS, one SWS equals 45 minutes) split into lecture, exercise, and lab classes. The ECTS credit points are indicated on the top. The first two semesters offer basic modules in physics, mathematics, chemistry, computer science, and electrical engineering. The modules are very similar to the modules in the German language taught "Technische Physik", so that interested students can switch courses if they want. The third and fourth semesters offer the specialisation subjects of the study programme. These are applied physics, data science, machine learning and engineering modules. The fifth semester offers an internship. Students apply for sponsored internships at companies or research institutes. The elective modules in the sixth and seventh semesters offer a high degree of flexibility and enable you to customise your focus on your major interest area: micro- and nanotechnology, photonics and acoustics or renewable energies. There are also general and multidisciplinary elective modules. The study course is finalised with a Bachelor's thesis, which is typically written in companies or research institutes.
A Diploma supplement will be issued	Yes
International elements	• Language training provided
Integrated internships	Mandatory internship in the fifth semester
Course-specific, integrated German language courses	No
Course-specific, integrated English language courses	No

Costs / Funding

Tuition fees per semester in EUR	None
Semester contribution	Student union fee: 85 EUR
Costs of living	https://hm.edu/en/your_stay_at_hm/students/fulltime/living.en.html
Funding opportunities within the university	No

Requirements / Registration

Academic admission requirements	The prerequisite is a university entrance qualification recognised in Bavaria.
Language requirements	The language requirements are B2 in English A2 in German must be proven by the end of the second semester at the latest.
Application deadline	EU and non-EU applicants Winter semester: 2 May to 15 July
Submit application to	hm.edu/study-muas

Services

Possibility of finding part-time employment	Munich is a large city with a dynamic job market for all kinds of jobs.
Accommodation	Finding accommodation in Munich might not be easy. If you need help finding a room or flat, you will find some helpful links on this page: (https://www.hm.edu/en/your_stay_at_hm/students/fulltime/living.en.html). Beyond that, we recommend that you do your own research. Unfortunately, the HM does not provide accommodation for students.
Support for international students and doctoral candidates	• Tutors • Specialist counselling • Support with registration procedures

Contact

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Course website: https://sci.hm.edu/studierende/studiengaenge/bachelor/engineering_physics_and_datascience/index.en.html

https://www.linkedin.com/in/fakult%C3%A4t-f%C3%BCr-angewandte-naturwissenschaften-5097402b4/

https://www.instagram.com/hm_fakultaet06

https://www.youtube.com/playlist?list=PLHnCdzz0BWt1BBidtSdBLli0AaMP-ElMN

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